Machine Cleaning (LTQ) ----- when convention gauge is close to 0.9 or below.

1. Turn voltage off ().

2. Turn capillary temp down from 275°C to 25°C (current tune window-setup-ESI source), takes about 15 minutes to vent.

3. Remove red suction plug used for voltage.

4. Slide out loading apparatus (the whole sample loading rack) by turning flat key-like metal bits.

5. Remove the capillary with "the magic tool" in the drawer below the LTQ1 machine. (no need to turn off the machine).

6. Wearing gloves, clean the capillary using a cut filter pipette tip with
   1) 4x5M HCl,
   2) 4xddH2O,
   3) 4xMethanol.
   You can also use the very fine emery paper too clean outside if still dirty.

7. Turn off service mode button (side of the machine), wait for 10 to 15 mins.

8. Turn off main power when the capillary temperature around 40°C. Make sure pumps (two of them) are not vibrating.

9. Pry (gently!) ion sweep cone out with a wrench.

10. Put the cone facing down on a 250mL beaker.

11. Then pop off the tube lens and skimmer.
   1) cover them both with ddH2O in a 250 ml beaker, sonicate for 6~10mins.
   2) sonicate in methanol for another 6~10mins.

12. If necessary, clean the dirty spots on lens with very fine emery paper, and rinse with methanol.

13. When dry, put all parts together and back into the machine. Make sure it is tight.

14. Check that vacuum pump oil is halfway full and change oil if needed before turning machine back on.

**15. Turn on the main power, when you do it, make sure that BOTH vacuum pumps are

vibrating, if NOT, TURN OFF the main power quick!

16. Make sure there is no hissing sound from the capillary lens.

17. Wait about 30 minutes to turn on the service mode (electronics).

18. If it does not boot hit the reset button on the side of the machine.

19. Slide loading apparatus back into front of machine.

20. Tune machine with angiotensin using syringe setup.
    The syringe setup has the syringe needle connected to the east end of a tee via tubing. The west end of the tee contains the gold wire and the north end has the column to be placed in front of the machine.

21. Make 1000 µl of tuning buffer (30 µl of 150 pmol/µl angiotensin and 970 µl of 1:1 methanol:ddH20; 0.1% formic acid).

22. Clean syringe 3X with 1:1 methanol:ddH20; 0.1% formic acid before loading syringe with 100 µl buffer.

23. Click on syringe/pump icon and set volume to 100 µl, flow rate to 1 µl/min and choose the Hamilton syringe setting.

24. In tune window turn machine on (click on the parallel pause bars to change it to the triangle).

25. Hit the tune fork icon and set optimize mass (m/z) to 433.

26. Let the diagnostics finish and record the convection gauge in the LTQ book.

27. NOTE: If you do not see high mass region you may want to optimize with 1267 first and then 433.